

CLAIMS:

1. A base body for a photosensitive drum, which is obtained by molding a conductive resin composition into a cylindrical shape,

said resin composition containing a resin base material and a conductive agent,

wherein said resin base material is a mixed resin of a polyamide resin and a low water absorption resin.

2. A base body for a photosensitive drum according to claim 1, wherein said low water absorption resin has a water absorption specified under ASTM-D570, which percentage is in a range of 0.3% or less.

3. A base body for a photosensitive drum according to claim 1, wherein said low water absorption resin is one kind or two or more kinds selected from polypropylene, polyphenylene ether, and polyphenylene sulfide.

4. A base body for a photosensitive drum according to claim 1, wherein said polyamide resin is one kind or two or more kinds selected from polyamide resins including polyamide 11, polyamide 12, polyamide 46, polyamide 6, polyamide 66, polyamide MXD6, polyamide 610, polyamide 612, polyamide 1212, and copolymers thereof.

5. A base body for a photosensitive drum according to claim 1, wherein a content of said low water absorption resin is in a range of 1 to 70 wt% on the basis of the total weight of said resin base material.

6. A base body for a photosensitive drum according to claim 1, wherein said conductive resin composition further contains a compatibility enhancing agent for enhancing a compatibility between said polyamide resin and said low water absorption resin.

7. A base body for a photosensitive drum according to claim 6, wherein said compatibility enhancing agent is either or both of maleic acid modified polypropylene and polystyrene-polymethlymethacrylate copolymer.

5

8. A base body for a photosensitive drum, which is obtained by molding a conductive resin composition into a cylindrical shape,

said resin composition containing a resin base
10 material and a conductive agent,

wherein said conductive agent is carbon black having a DBP oil absorption amount in a range of 130 ml/100g or more.

9. A base body for a photosensitive drum according to
15 claim 8, wherein a content of said carbon black is in a range of 30 wt% or less.

10. A base body for a photosensitive drum according to claim 8, wherein said resin base material contains a
20 polyamide resin obtained from metaxylylene diamine and adipic acid and/or a polyamide resin obtained from ε-caprolactam.

11. A base body for a photosensitive drum according to
25 claim 8, wherein said conductive resin composition contains an inorganic filler for reinforcement.

12. A base body for a photosensitive drum, which is obtained by molding a conductive resin composition into a
30 cylindrical shape,

said resin composition containing an inorganic filler for reinforcement,

wherein said inorganic filler for reinforcement is either or both of a micro-spherical inorganic material and a
35 flake-shaped inorganic material.

13. A base body for a photosensitive drum according to claim 12, wherein said micro-spherical inorganic material is in the form of spherical particles having an average particle size in a range of 50 μm or less.

5

14. A base body for a photosensitive drum according to claim 12, wherein said micro-spherical inorganic material is one kind or two or more kinds selected from glass beads, silica balloon, and fly ash.

10

15. A base body for a photosensitive drum according to claims 12, wherein a content of said micro-spherical inorganic material is in a range of 10 to 25 wt%.

15

16. A base body for a photosensitive drum according to claim 12, wherein said flake-shaped inorganic material is in the form of flakes each having an aspect ratio (length/thickness) in a range of 10 to 70.

20

17. A base body for a photosensitive drum according to claim 12, wherein said flake-shaped inorganic material is one kind or two or more kinds selected from aluminum flakes, Ni-coated mica, muscovite, and phlogopite.

25

18. A base body for a photosensitive drum according to claim 12, wherein a content of said flake-shaped inorganic material is in a range of 10 to 25 wt%.

30

19. A base body for a photosensitive drum, which is obtained by molding a conductive resin composition into a cylindrical shape,

said resin composition containing an inorganic filler for reinforcement,

35

wherein said inorganic filler for reinforcement is a fibrous inorganic material in the form of fibers each having

a length ranging from 8 to 50 μm and a diameter ranging from 0.1 to 5 μm .

20. A base body for a photosensitive drum according to
5 claim 19, wherein said fibrous inorganic material is a fiber material in the form of whisker based fibers of one kind or two or more kinds selected from potassium titanate, aluminum borate, silicon carbonate, basic magnesium sulfate, zinc oxide, calcium sulfate, magnesium borate, and calcium
10 silicate.

21. A base body for a photosensitive drum according to
claim 19, wherein a content of said fibrous inorganic
15 material is in a range of 10 to 25 wt% on the basis of the total weight of said conductive resin composition.

22. A base body for a photosensitive drum according to
claim 19, wherein said base body has a surface roughness
specified under JIS B0601 such that a center line average
20 height R_a is in a range of less than 0.2 μm and a maximum height R_{max} is in a range of less than 0.8 μm .

23. A base body for a photosensitive drum, which is
obtained by molding a conductive resin composition into a
25 cylindrical shape,

wherein said resin composition has a factor $\tan \delta$
expressing a frequency characteristic of said resin
composition measured by an one-end fixation method using an
apparatus for measuring a complex modulus of elasticity,
30 which factor is in a range of 0.05 or more.

24. A base body for a photosensitive drum according to
claim 23, wherein said conductive resin composition further
contains an inorganic filler for reinforcement.

25. A photosensitive drum comprising:

a cylindrical base body, which is obtained by molding a conductive resin composition into a cylindrical shape; and

a photosensitive layer formed on an outer peripheral surface of said cylindrical base body;

wherein said resin composition contains a resin base material and a conductive agent, and said resin base material is a mixed resin of a polyamide resin and a low water absorption resin.

26. A photosensitive drum according to claim 25, wherein said low water absorption resin has a water absorption specified under ASTM-D570, which percentage is in a range of 0.3% or less.

27. A photosensitive drum according to claim 25, wherein said low water absorption resin is one kind or two or more kinds selected from polypropylene, polyphenylene ether, and polyphenylene sulfide.

28. A photosensitive drum according to claim 25, wherein said polyamide resin is one kind or two or more kinds selected from polyamide resins including polyamide 11, polyamide 12, polyamide 46, polyamide 6, polyamide 66, polyamide MXD6, polyamide 610, polyamide 612, polyamide 1212, and copolymers thereof.

29. A photosensitive drum according to claim 25, wherein a content of said low water absorption resin is in a range of 1 to 70 wt% on the basis of the total weight of said resin base material.

30. A photosensitive drum according to claim 25, wherein said conductive resin composition further contains a compatibility enhancing agent for enhancing a compatibility between said polyamide resin and said low water absorption resin.

31. A photosensitive drum according to claim 30, wherein said compatibility enhancing agent is either or both of maleic acid modified polypropylene and polystyrene-polymethylmethacrylate copolymer.

5

32. A photosensitive drum comprising:

a cylindrical base body, which is obtained by molding a conductive resin composition into a cylindrical shape; and

a photosensitive layer formed on an outer peripheral surface of said cylindrical base body;

wherein said resin composition contains a resin base material and a conductive agent, and said conductive agent is carbon black having a DBP oil absorption amount in a range of 130 ml/100g or more.

15

33. A photosensitive drum according to claim 32, wherein a content of said carbon black is in a range of 30 wt% or less.

34. A photosensitive drum according to claim 32, wherein said resin base material contains a polyamide resin obtained from metaxylylene diamine and adipic acid and/or a polyamide resin obtained from ϵ -caprolactam.

20

35. A photosensitive drum according to claim 32, wherein said conductive resin composition contains an inorganic filler for reinforcement.

25

36. A photosensitive drum comprising:

a cylindrical base body, which is obtained by molding a conductive resin composition into a cylindrical shape; and

30

a photosensitive layer formed on an outer peripheral surface of said cylindrical base body;

wherein said resin composition contains an inorganic filler for reinforcement, and said inorganic filler for reinforcement is either or both of a micro-spherical inorganic material and a flake-shaped inorganic material.

35

37. A photosensitive drum according to claim 36, wherein said micro-spherical inorganic material is in the form of spherical particles having an average particle size in a range of 50 μm or less.

5

38. A photosensitive drum according to claim 36, wherein said micro-spherical inorganic material is one kind or two or more kinds selected from glass beads, silica balloon, and fly ash.

10

39. A photosensitive drum according to claims 36, wherein a content of said micro-spherical inorganic material is in a range of 10 to 25 wt%.

15

40. A photosensitive drum according to claim 36, wherein said flake-shaped inorganic material is in the form of flakes each having an aspect ratio (length/thickness) in a range of 10 to 70.

20

41. A photosensitive drum according to claim 36, wherein said flake-shaped inorganic material is one kind or two or more kinds selected from aluminum flakes, Ni-coated mica, muscovite, and phlogopite.

25

42. A photosensitive drum according to claim 36, wherein a content of said flake-shaped inorganic material is in a range of 10 to 25 wt%.

30

43. A photosensitive drum comprising:
a cylindrical base body, which is obtained by molding a conductive resin composition into a cylindrical shape; and
a photosensitive layer formed on an outer peripheral surface of said cylindrical base body;

35

wherein said resin composition contains an inorganic filler for reinforcement, and said inorganic filler for reinforcement is a fibrous inorganic material in the form of

fibers each having a length ranging from 8 to 50 μm and a diameter ranging from 0.1 to 5 μm .

44. A photosensitive drum according to claim 43, wherein
5 said fibrous inorganic material is a fiber material in the form of whisker based fibers of one kind or two or more kinds selected from potassium titanate, aluminum borate, silicon carbonate, basic magnesium sulfate, zinc oxide, calcium sulfate, magnesium borate, and calcium silicate.

10 45. A photosensitive drum according to claim 43, wherein a content of said fibrous inorganic material is in a range of 10 to 25 wt% on the basis of the total weight of said conductive resin composition.

15 46. A photosensitive drum according to claim 43, wherein said base body has a surface roughness specified under JIS B0601 such that a center line average height R_a is in a range of less than 0.2 μm and a maximum height R_{max} is in a
20 range of less than 0.8 μm .

47. A photosensitive drum comprising:
a cylindrical base body, which is obtained by molding
a conductive resin composition into a cylindrical shape; and
25 a photosensitive layer formed on said cylindrical base body;

wherein said resin composition has a factor $\tan \delta$
expressing a frequency characteristic of said resin
composition measured by an one-end fixation method using an
30 apparatus for measuring a complex modulus of elasticity,
which factor is in a range of 0.05 or more.

48. A photosensitive drum according to claim 47, wherein
said conductive resin composition further contains an
35 inorganic filler for reinforcement.